

Appln No. 10/586,081
Amdt date February 1, 2010
Reply to Office action of December 4, 2009

Listing of Claims:

1. (Original) Use of particles containing at least one cavity in the method for the manufacturing of a three-dimensional object in a layer-wise fashion.
2. (Original) Method for the manufacture of a three-dimensional object comprising the following steps:
 - applying a layer of particles onto a target surface;
 - irradiating a selected part of the layer that corresponds to a cross-section of the object with a beam of energy or a jet of liquid such that the particles in the selected part become connected to each other;
 - repeating the steps of application and irradiation with a beam or jet for a multiplicity of layers such that the connected parts of adjacent layers connect to each other to form the object, characterized in that particles are used that contain at least one cavity.
3. (Original) Method according to claim 2, characterized in that the particles are irradiated such that the cavities are essentially preserved.
4. (Original) Multiple-phase material system for use in 3D printing containing solid particles and a liquid; wherein at least parts of the particles possess the feature to form lasting connections to adjacent particles upon contact with the liquid, characterized in that the particles contain at least one cavity.
5. (Original) Particle for use in laser sintering comprising on at least part of its surface a component whose softening temperature is below 100°C, characterized in that

it contains at least one cavity.

6. (Previously Presented) Material system according to claim 4,
characterized in that
the particles have diameters of less than 500 μm , preferably diameters on the order of 10 to 300 μm .

7-9 (Cancelled)

10. (Previously Presented) Particle according to claim 5,
characterized in that the particle has a diameter of less than 500 μm , preferably a diameter on the
order of 10 to 300 μm .

11. (Previously Presented) Material system according to claim 4,
characterized in that the volume fraction of the cavities accounts for minimally 30% and
maximally 90%, preferably at least 50% and maximally 80%, of the volume of the particles.

12. (Previously Presented) Particle according to claim 5,
characterized in that the volume fraction of the cavities accounts for minimally 30% and
maximally 90%, preferably at least 50% and maximally 80%, of the volume of the particle.

13. (Previously Presented) Material system according to claim 6,
characterized in that the volume fraction of the cavities accounts for minimally 30% and
maximally 90%, preferably at least 50% and maximally 80%, of the volume of the particles.

14. (Previously Presented) Particle according to claim 10,
characterized in that the volume fraction of the cavities accounts for minimally 30% and
maximally 90%, preferably at least 50% and maximally 80%, of the volume of the particle.

15. (Previously Presented) Material system according to claim 4,
characterized in that the particles comprise cross-linkable polymers at least on their surface.

16. (Previously Presented) Particle according to claim 5,
characterized in that the particle comprises cross-linkable polymers at least on its surface.

17. (Previously Presented) Material system according to claim 6,
characterized in that the particles comprise cross-linkable polymers at least on their surface.

18. (Previously Presented) Particle according to claim 10,

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characterized in that the particles comprise cross-linkable polymers at least on their surface.

19. (Previously Presented) Object made of particles that are connected to each other, characterized in that it was manufactured by means of a method according to claim 2.

20. (Previously Presented) Object made of particles that are connected to each other, characterized in that it was manufactured by means of a method according to claim 3.

21. (Previously Presented) Object made of particles that are connected to each other, characterized in that it was manufactured from a material system according to claim 4.

22. (Previously Presented) Object made of particles that are connected to each other, characterized in that it was manufactured from particles according to claim 5.